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Phenomena of Jupiter's Satellites.

		Sat.	Phenomena.		G.M.T.			Corr. of *N.A.*		Observer.	Remarks.
					h	m	s	m	s		
1885, Feb.	2	4	Ec. Disap.	Fading	10	3	2			S. J. P.	Definition good.
				$\frac{1}{4}$ light		4	49			,,	
				= 11th Mag. ∗		6	55·5			,,	
				Last seen		9	7	+	39	,,	If anything, a little too early.
	3	1	Ec. Disap.	Fading	8	59	49			W. C.	Passing clouds at commencement of observation.
				$\frac{1}{2}$ light	9	0	54			,,	
				Last seen		2	2	+	8	,,	
	19	1	Oc. Disap.	External contact	7	14	34			,,	Definition very poor. Unsteady.
				Bisection		15	28			,,	
				Last seen		16	41			,,	
	19	4	Ec. Reap.	First seen	8	44	57	+ 3	3	S. J. P.	Late, from nearness to limb. Definition good, but changing.
				$\frac{1}{4}$ light		50	52			,,	
	19	1	Oc. Reap.	First seen	9	33	5			W. C.	Definition good.
				Bisection		34	44			,,	
				Last contact		36	53			,,	
	28	2	Oc. Disap.	External contact	8	45	25			,,	Definition good, and planet very steady.
				Bisection		47	26			,,	
				Last seen		49	7			,,	
March	6	3	Tr. Egress	Internal contact	7	12	9			,,	Unsteady.
				Bisection		14	33			,,	
				Last contact		17	12			,,	

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	Sat.	Phenomena.	G.M.T. h	m	s	Corr. of *N.A.* m s	Observer.	Remarks.
1885, Mar. 6	1	Tr. Egress External contact	7	58	50		W.C.	Definition good.
		Bisection	8	0	30		„	
		Internal contact		2	25		„	
6	3	Sh. Egress Internal contact	8	41	5		„	Definition good.
		Bisection		43	18		„	
		Last seen		45	33		„	
6	1	Tr. Egress Internal contact	10	17	5		„	Fairly good sky.
		Bisection		18	41		„	
		External contact		20	16		„	
6	1	Sh. Ingress Internal contact	10	38	59		„	Sh. exceedingly small, but dark.
		Bisection		40	0		„	
		Last seen		41	3		„	
13	1	Tr. Ingress External contact	9	45	44		„	Definition good.
		Bisection		47	32		„	
		Internal contact		49	20		„	
13	3	Tr. Egress Internal contact	10	30	48		„	Good.
		Bisection		34	5		„	
		Last contact		37	18		„	
13	1	Tr. Egress Internal contact	12	2	4		„	Definition good; limb boiling.
		Bisection		3	35		„	
		Last contact		5	2		„	

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	Sat.	Phenomena.	G.M.T. h	m	s	Corr. of *N.A.* m	s	Observer.	Remarks.
1885, Mar. 14	1	Oc. Disap. First contact	6	51	34			W.C.	Sky very hazy.
		Bisection		53	23			,,	
		Last seen		55	8			,,	
14	1	Ec. Reap. First seen	9	43	30	+	10	,,	Sky very hazy.
		½ light		44	33			,,	
		Full light		45	36			,,	
14	2	Oc. Disap. First contact	13	18	9			,,	Difficult; sky bad.
		Bisection		19	58			,,	
		Last seen		21	23			,,	
22	1	Tr. Egress Internal contact	8	14	3			,,	Tremulous. Definition fairly good.
		Bisection		15	56			,,	
		Last contact		17	47			,,	
April 17	2	Tr. Egress External contact	9	6	59			J. R.	Fair observation.
18	4	Tr. Egress Internal contact	11	31	38			W. C.	Sky very hazy.
		Bisection		34	35			,,	
		External contact	11	37	38			,,	
27	4	Ec. Reap. First seen	8	36	4	+	21	,,	Good.
		½ light		39	58			,,	
		Full light		43	41			,,	
Nov. 15	3	Ec. Reap. First seen	17	52	19	+ 1	14	,,	Very good.
		½ light		54	14			,,	
		Full light		59	1			,,	

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Occultations observed at Beloit, Wisconsin, in 1884–85.
By J. Tatlock.

(*Communicated by the Secretaries.*)

From August 1884 to July 1885 I was in charge of a small Observatory at Beloit, Wisconsin, and during that time the observation of occultations of stars by the Moon was made a prominent feature of the Observatory work. Such observations of this nature as I succeeded in making are given in what follows. The list is comparatively small, but much of my time was occupied with other matters and duties, and the weather during the winter of 1884–85 and the spring of 1885 was particularly unfavourable for astronomical work in this locality.

The position of the Observatory is assumed to be—

Long. $5^h\ 56^m\ 7^s{\cdot}30$ West of Greenwich,
Lat. $+42^\circ\ 30'\ 9''$.

These coordinates were determined by triangulation from points in the immediate vicinity of the Observatory which had been fixed by the State Survey of Wisconsin, whose positions depend upon the Coast Survey (telegraphic) longitude and latitude of Madison. This position is undoubtedly susceptible of correction, but I think it is abundantly accurate for the reduction of the observations contained in this paper.

The occultations were observed with an Equatorial having a Clark objective of 9·5 English inches in diameter. A power of 220 was usually employed, though some of the observations were made with a power of 100. A part of the occultations were observed by the eye-and-ear method, using a sidereal chronometer, but the majority were registered on the chronograph, with a Howard mean-time clock graduating the sheet.

I made a great effort to have the time determination as accurate as possible. The Transit was an instrument of antique construction, with an objective of 2·5 inches in diameter, and fitted with a diagonal eyepiece with a power of about 35. The instrument was rather unsteady in level and azimuth, and I consequently determined the inclination of the axis at frequent intervals, at least once for every star. The collimation was determined from the star observation, and as this demanded a reversal of the instrument, I always assumed, in the reduction, two values of the azimuth constant. The time determinations were made by the eye-and-ear method, using a sidereal chronometer, and the time was found on every night on which occulta-